



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,539	11/25/2003	Seong-Hee Lee	Q78339	4403
23373	7590	07/05/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER DOAN, KIET M	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 07/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/720,539

Applicant(s)

LEE, SEONG-HEE

Examiner

Kiet Doan

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 17-23 and 33-39 is/are rejected.
- 7) ☒ Claim(s) 8-16, 24-32 and 39-52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This office action is response to Remarks file on 04/11/2007.

Claims 49-52 are new.

#### ***Allowable Subject Matter***

2. **Claims 8-16, 23-32, 40-52** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments filed 04/11/2007 have been fully considered but they are not persuasive.

In response to applicant's argument that reference fail to teach or suggest "an awake window interval counting unit which counts, in a counting, the interval value in the awake window set by the awake window setting unit; and

an inactive state conversion unit which, if the awake window counting unit finishes the counting, converts the awake window into an inactive state" or any sort of counting the interval value.

Examiner respectfully disagrees, in Romans (US 6,564,074) teaches "an awake window interval counting unit which counts, in a counting, the interval value in the awake window set by the awake window setting unit; and

an inactive state conversion unit which, if the awake window counting unit finishes the counting, converts the awake window into an inactive state" or any sort of counting the interval value (C5, L65-67, C6, L20-25 teach the station switching to either

Art Unit: 2617

active state or inactive state when receiving CP beacon, that is, which read on converting the awake window into inactive state. The phrase "if the awake window counting unit" is given the office an optional of either read as **yes** or **no** of the counting the interval value. Further, column 2, lines 30-32 teach the station remain in active state and turn to inactive state value).

Therefore, examiner interpreted "an awake window interval counting unit which counts, in a counting, the interval value in the awake window set by the awake window setting unit; and

an inactive state conversion unit which, if the awake window counting unit finishes the counting, converts the awake window into an inactive state" as broadest reasonable interpretation and it is proper.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-7, 17-22, 33-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Romans (Patent No. 6,564,074).

Consider **claims 1, 17, 33**. Romans teaches a power consumption reducing apparatus comprising:

Art Unit: 2617

a periodic active state conversion unit which, in each awake period, converts an inactive state into an active state, wherein power consumption is greater in the active state than in the inactive state (C1, L55-63 teach control station periodic transmitted beacon signal to active/wake up station);

a beacon frame reception unit which, in an active state converted by the period active state conversion unit, receives a beacon frame (C2, L3-9);

an awake window setting unit which, when the beacon frame reception unit receives the beacon frame, and if an interval value of an awake window, in which the active state is maintained for a predetermined time, among field values of the received beacon frame is valid, sets the awake window (Abstract, C2, L1-16, C3, L5-50);

an awake window interval counting unit which counts, in a counting, the interval value in the awake window set by the awake window setting unit; and

an inactive state conversion unit which, if the awake window counting unit finishes the counting, converts the awake window into an inactive state (C5, L65-67, C6, L20-23, C7, L21-67).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Romans system, such that a power consumption using beacon frame and converts an inactive state into an active state to provide means for the users station consumption/saving power keeping station inactive/sleep mode when not receiving beacon frame.

Consider **claims 2, 18, 34**. Romans teaches the apparatus of claim 1, wherein if

Art Unit: 2617

the beacon frame reception unit does not receive the beacon frame within a predetermined time, or if the beacon frame is received within the predetermined time and a length value of the awake window contained in the received beacon frame is not valid, the awake window setting unit converts the active state into the inactive state (C5, L65-67, C6, L20-23, C7, L21-67).

Consider **claims 3, 19, 35**. Romans teaches the apparatus of claim 1, wherein the awake window counting unit counts by repeatedly subtracting a predetermined unit value from the interval value of the awake window in each counting period (C7, L21-30).

Consider **claims 4, 20, 36**. Romans teaches the apparatus of claim 1, wherein the active state is a state where a full power is provided and the inactive state is a state where a minimum power needed for conversion into the active state is provided (C5, L44-67, C6, L1-36).

Consider **claims 5, 21, 37**. Romans teaches the apparatus of claim 1, further comprising: a data frame transmission and reception unit which transmits and receives a predetermined data frame in the awake window set by the awake window setting unit (C6, L37-60).

Consider **claims 6, 22, 38**. Romans teaches the apparatus of claim 5, wherein

Art Unit: 2617

the power consumption reducing apparatus is an apparatus of a first station on a predetermined wireless ad-hoc network (C1, L55-60, C3, L5-11).

Consider **claims 7, 23, 39**. Romans teaches wherein in each awake period, the beacon frame is transmitted through a predetermined channel to all stations, except a station having transmitted the beacon frame, on the wireless ad-hoc network (C1, L55-60, C3, L5-11, C40-67, C4, L1-30).

### ***Conclusion***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

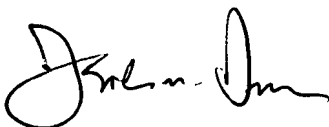
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.

Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kiet Doan  
Patent Examiner

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER